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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			EXAMINER PIZIALI, ANDREW T	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/789,143

**Applicant(s)**

TILTON ET AL.

**Examiner**

Andrew T. Piziali

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/2007 has been entered.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what heat resistance is encompassed by a "high heat resistance."

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield.

Oleszczuk and Lickfield each disclose an article comprising a first layer of wet processed mat (14), and a second layer of wet processed mat (16), wherein said first and/or second layer comprises thermoplastic polymer staple fibers and thermoplastic bicomponent fibers (see entire documents including the paragraph bridging columns 11 and 12 of Oleszczuk and column 9, lines 12-20 of Lickfield). Oleszczuk and Lickfield each disclose that the first and second layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield).

It is the examiner's position that the first or second layer of wet processed mat taught by the applied prior art is identical to the claimed liner/insulator. Although the current claim refers to directly bonding a first, second, and third layer of wet processed mat to form the claimed liner/insulator, the claim does not distinguish between the first, second, and third layers. Therefore, a single mass of wet processed bonded fibrous mat comprising thermoplastic polymer staple fibers and thermoplastic bicomponent fibers is patentably identical to a multi-layer article constructed by overlaying multiple layers of identical fibrous material.

6. Claims 1-5, 11, 12, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,022,818 to Welchel.

Regarding claims 1-5, 11, 12, 25 and 26, Welchel discloses an article comprising a first layer of air-laid processed mat (114), a second layer of air-laid processed mat (106), and a third layer of air-laid processed mat (108), wherein said layers comprise thermoplastic polymer staple fibers and thermoplastic bicomponent fibers (see entire documents including column 5, lines 35-65 and column 7, lines 4-21). Welchel discloses that the layers may be thermally bonded (column 7, lines 22-53).

It is the examiner's position that the article of the applied prior art (air-laid) is identical to or only slightly different than the claimed article (wet-laid). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter.

Regarding claims 1-5, 11, 12 and 26, Welchel discloses that the first and second layers may have fibers of different fiber formulations (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20).

Regarding claim 3, Welchel discloses that the fibers may consist of polyester and polyethylene (Examples).

Regarding claims 4 and 5, Welchel discloses that the layers may be thermally bonded by heat and pressure (column 7, lines 22-53).

Regarding claim 11, Welchel discloses that the fibers may comprise polyethylene (Examples), which is inherently hydrophobic.

Regarding claim 12, Welchel discloses that the third layer may include pulp or cotton fibers (column 4, lines 30-43), which are inherently sound absorbent.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-5, 9-15, 19-22 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield, in view of USPN 6,022,818 to Welchel.

Regarding claims 1-5, 9-15, 19-22 and 24-27, Oleszczuk and Lickfield each disclose an article comprising a first supporting layer of wet processed mat (14), a meltblown thermoplastic fiber layer (12), and a second supporting layer of wet processed mat (16), wherein said first and/or second layer comprises thermoplastic polymer staple fibers and thermoplastic bicomponent fibers (see entire documents including the paragraph bridging columns 11 and 12 of Oleszczuk and column 9, lines 12-20 of Lickfield). Oleszczuk and Lickfield each disclose that the layers of the article may be directly thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield).

Oleszczuk and Lickfield each disclose that additional "supporting" (wet processed bicomponent staple fiber mat) layers may be added to the article (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield), but the references do not appear to specifically mention at least one adjacent additional layer of different fiber formulation. Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional

thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and more comfortable to the user (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to directly bond an additional wet processed bicomponent staple fiber mat supporting layer, with a different fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), because the additional wet processed bicomponent staple fiber mat supporting layer would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user.

Regarding claims 3 and 15, Oleszczuk and Lickfield each disclose that the fibers may be polyester, polyethylene, and/or PET (see column 8, lines 22-54 and column 12, lines 43-56 of Oleszczuk and column 3, lines 55-67 and column 10, lines 1-9 of Lickfield).

Regarding claims 4, 5, 13 and 27, Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield). It is noted that Welch also discloses that the thermoplastic bicomponent staple fiber nonwoven layers (105 and 102) are to be directly bonded (45-48).

Regarding claims 9 and 19, Oleszczuk and Lickfield each disclose that the outer layer may be hydrophilic (see column 12, lines 31-43 of Oleszczuk and column 4, lines 1-17 of Lickfield).

Regarding claims 10 and 20, Oleszczuk and Lickfield each disclose that the outer layer may be flame retardant (heat resistant) (see column 12, lines 31-43 of Oleszczuk and column 9, lines 52-63 of Lickfield).

Regarding claims 11 and 21, Oleszczuk and Lickfield each disclose that the fibers may comprise polyethylene(column 8, lines 22-54 of Oleszczuk and column 3, line 55 through column 4, line 17 of Lickfield), which is inherently hydrophobic.

Regarding claims 12 and 22, Oleszczuk and Lickfield each disclose that the fibers may include natural fibers such as cotton or wool (see column 8, lines 37-54 of Oleszczuk and column 4, lines 1-17 of Lickfield), which are inherently sound absorbent.

Regarding claim 24, the first and second layers have different fiber compositions because one layer is composed of fibers with a small diameter while the other layer is composed of fibers with a larger diameter. In addition, Oleszczuk and Lickfield each disclose that at least one of the outer webs may be treated with a treatment agent to render any one of a number of desired properties to the fabric (column 12, lines 31-43 of Oleszczuk and column 4, lines 1-17 of Lickfield). Therefore, the first and second layers would have different fiber compositions because the outer layer would be composed of fibers comprising a treatment agent while the inner layer would be composed of fibers not comprising a treatment agent.

Regarding claim 25, it is the examiner's position that the first or second layer of wet processed mat taught by the applied prior art is identical to the claimed liner/insulator. Although the current claims refer to directly bonding a first, second, and third layer of wet processed mat to form the claimed liner/insulator, the claims do not distinguish between the first, second, and third layers. Therefore, a single mass of wet processed bonded fibrous mat comprising



thermoplastic polymer staple fibers and thermoplastic bicomponent fibers can be considered a multi-layer article comprising multiple layers of identical fibers.

9. Claims 6-8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield, in view of USPN 6,022,818 to Welch as applied to claims 1-5, 9-15, 19-22 and 24-27 above, and further in view of USPN 4,813,948 to Insley.

Oleszczuk and Lickfield are each silent with regards to specific layer thicknesses, therefore, it would have been necessary and thus obvious to look to the prior art for conventional thicknesses. Insley provides this conventional teaching showing that it is known in the nonwoven barrier fabric art to use layer thicknesses ranging from 0.02 to 4 cm (see entire document including column 3, lines 43-62 and column 11, lines 39-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the layers with a thickness ranging from 0.02 to 4 cm, motivated by the expectation of successfully practicing the invention of Oleszczuk and/or Lickfield.

10. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield, in view of USPN 6,022,818 to Welch as applied to claims 1-5, 9-15, 19-22 and 24-27 above, and further in view of any one of USPN 6,548,431 to Bansal or USPN 4,508,113 to Malaney.

Oleszczuk and Lickfield each disclose that the fibers may be bicomponent fibers comprising a polyethylene sheath (see column 12, lines 44-56 of Oleszczuk and column 10, lines 1-9 of Lickfield), but Oleszczuk and Lickfield are each silent with regards to a specific bonding temperature. Therefore, it would have been necessary and thus obvious to look to the prior art

for conventional bonding temperatures. Bansal and Malaney each provide this conventional teaching showing that it is known in the art to use a bonding temperature within a range of about 100 to about 150C (about 200 to 300F) when bonding polyethylene (see entire documents including column 8, lines 22-38 of Malaney and column 14, lines 37-52 of Bansal). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply heat at a temperature range of 200 to 300F, motivated by the expectation of successfully practicing the invention of Oleszczuk and/or Lickfield.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel as applied to claims 1-5, 11, 12, 25 and 26 above, and further in view of USPN 4,813,948 to Insley.

Welchel is silent with regards to thickness ranges, therefore, it would have been obvious to look to the prior art for conventional thicknesses. Insley provides this conventional teaching showing that it is known in the nonwoven barrier fabric art to use layer thicknesses ranging from 0.02 to 4 cm (see entire document including column 3, lines 43-62 and column 11, lines 39-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the layers with a thickness ranging from 0.02 to 4 cm, motivated by the expectation of successfully practicing the invention of Insley.

12. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel as applied to claims 1-5, 11, 12, 25 and 26 above, and further in view of USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield.

Regarding claims 9, Welchel does not appear to mention a hydrophilic first layer, but Oleszczuk and Lickfield each disclose that it is known in the art to make the outer layer of a

liner/insulator hydrophilic (see column 12, lines 31-43 of Oleszczuk and column 4, lines 1-17 of Lickfield). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the first layer from any suitable mat material, such as a hydrophilic material, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claims 10, Welchel does not appear to mention the first layer having a high heat resistance, but Oleszczuk and Lickfield each disclose that it is known in the art to make the outer layer of a liner/insulator flame retardant (heat resistant) (see column 12, lines 31-43 of Oleszczuk and column 9, lines 52-63 of Lickfield). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the first layer from any suitable mat material, such as a flame retardant material, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

13. Claims 1-5, 11-15, 21, 22 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli.

Welchel discloses an article comprising a first layer of air-laid processed mat (114), a second layer of air-laid processed mat (106), and a third layer of air-laid processed mat (108), wherein said layers comprise thermoplastic polymer staple fibers and thermoplastic bicomponent fibers (see entire documents including Figure 2, column 5, lines 35-65 and column 7, lines 4-21). Welchel discloses that the layers may be thermally bonded (column 7, lines 22-53).

Welchel discloses that the layers may be formed by air-laying (column 7, lines 54-62), but Welchel does not appear to specifically mention a wet-laid process. In the event that it is shown that an air-laid mat is patentably distinct from a wet-laid mat, Holm, Cederblad, and D'Acchioli each disclose that it is known in the art to form mats by a wet-laid or dry-laid process (see entire documents including column 1, lines 10-29 of Holm, column 4, lines 37-50 of Cederblad, and column 3, lines 14-40 of D'Acchioli). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mat from any suitable nonwoven material, such as dry-laid or wet-laid, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claims 1-5, 11-15, 21, 22, 26 and 27, Welchel discloses that the first and second layers may have fibers of different fiber formulations (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20).

Regarding claims 3 and 15, Welchel discloses that the fibers may consist of polyester and polyethylene (Examples).

Regarding claims 4, 5, 13-15, 21, 22 and 27, Welchel discloses that the layers may be thermally bonded by heat and pressure (column 7, lines 22-53).

Regarding claims 11 and 21, Welchel discloses that the fibers may comprise polyethylene (Examples), which is inherently hydrophobic.

Regarding claims 12 and 22, Welchel discloses that the third layer may include pulp or cotton fibers (column 4, lines 30-43), which are inherently sound absorbent.

14. Claims 6-8 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli as applied to claims 1-5, 11-15, 21, 22 and 25-27 above, and further in view of USPN 4,813,948 to Insley.

Welchel is silent with regards to thickness ranges, therefore, it would have been obvious to look to the prior art for conventional thicknesses. Insley provides this conventional teaching showing that it is known in the nonwoven barrier fabric art to use layer thicknesses ranging from 0.02 to 4 cm (see entire document including column 3, lines 43-62 and column 11, lines 39-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the layers with a thickness ranging from 0.02 to 4 cm, motivated by the expectation of successfully practicing the invention of Insley.

15. Claims 9, 10, 19, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli as applied to claims 1-5, 11-15, 21, 22 and 25-27 above, and further in view of USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield.

Regarding claims 9 and 19, Welchel does not appear to mention a hydrophilic first layer, but Oleszczuk and Lickfield each disclose that it is known in the art to make the outer layer of a liner/insulator hydrophilic (see column 12, lines 31-43 of Oleszczuk and column 4, lines 1-17 of Lickfield). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the first layer from any suitable mat material, such as a hydrophilic

material, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claims 10 and 20, Welchel does not appear to mention the first layer having a high heat resistance, but Oleszczuk and Lickfield each disclose that it is known in the art to make the outer layer of a liner/insulator flame retardant (heat resistant) (see column 12, lines 31-43 of Oleszczuk and column 9, lines 52-63 of Lickfield). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the first layer from any suitable mat material, such as a flame retardant material, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

Regarding claim 24, the first and second layers have different fiber compositions because one layer is composed of fibers with a small diameter while the other layer is composed of fibers with a larger diameter. In addition, Oleszczuk and Lickfield each disclose that at least one of the outer webs may be treated with a treatment agent to render any one of a number of desired properties to the fabric (column 12, lines 31-43 of Oleszczuk and column 4, lines 1-17 of Lickfield). It would have been obvious to one having ordinary skill in the art at the time the invention was made to treat at least one of the outer webs with a treatment agent to render any one of a number of desired properties to the fabric. Therefore, the first and second layers would have different fiber compositions because the outer layer would be composed of fibers comprising a treatment agent while the inner layer would be composed of fibers not comprising a treatment agent.

16. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli as applied to claims 1-5, 11-15, 21, 22 and 25-27 above, and further in view of any one of USPN 6,548,431 to Bansal or USPN 4,508,113 to Malaney.

Welchel discloses that the fibers may be bicomponent fibers comprising a polyethylene sheath (Examples), but Welchel is silent with regards to a specific bonding temperature. Therefore, it would have been necessary and thus obvious to look to the prior art for conventional bonding temperatures. Bansal and Malaney each provide this conventional teaching showing that it is known in the art to use a bonding temperature within a range of about 100 to about 150C (about 200 to 300F) when bonding polyethylene (see entire documents including column 8, lines 22-38 of Malaney and column 14, lines 37-52 of Bansal). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply heat at a temperature range of 200 to 300F, motivated by the expectation of successfully practicing the invention of Welchel.

***Response to Arguments***

17. Applicant's arguments filed 10/16/2007 have been fully considered but they are not persuasive.

Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicant asserts that the claims are definite because a skilled artisan would understand what is claimed upon reviewing the specification. The examiner respectfully disagrees. The specification simply discloses that a high heat resistant layer may be formulated by providing high-melting fibers (page 8, lines 18-26). The specification fails to teach or suggest what constitutes a "high heat resistance," thereby failing to render the claim language definite to one skilled in the art. If the applicant continues to insist that the phrase "high heat resistance" is clear, the applicant is requested to specifically disclose the resistant temperature range encompassed by the claimed phrase "high heat resistance."

The claim rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield.

The applicant asserts that the examiner "speculates" that a single mass of fibers can be considered a multilayered article. The examiner respectfully disagrees. Although the current claim refers to directly bonding a first, second, and third layer of wet processed mat to form the claimed liner/insulator, the claim does not distinguish between the first, second, and third layers. Therefore, a single mass of wet processed bonded fibrous mat comprising thermoplastic polymer



staple fibers and thermoplastic bicomponent fibers is patentably identical to a multi-layer article constructed by overlaying multiple layers of identical fibrous material.

Claims rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,022,818 to Welchel.

The applicant asserts that there is no evidence to support the conclusion that the article of the applied prior art (air-laid) is identical to or only slightly different than the claimed article (wet-laid). The examiner respectfully disagrees. As is well known to one skilled in the art, wet-laid nonwovens and air-laid nonwovens both consist of fibers having a random orientation and isotropic properties. Therefore, there is rationale tending to show that the claimed product appears to be the same or similar to that of the prior art. Although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983).

In response, the applicant asserts that there is no evidence in the record to support the statement that wet-laid nonwovens and air-laid nonwovens both consist of fibers having a random orientation and isotropic properties. Although the examiner contends that such knowledge is common sense, the examiner has cited the textile dictionary definitions of “air-laid nonwovens” and “wet-laid nonwovens” for applicant’s convenience.

The applicant asserts that the “wet processed mat” limitation is not a product-by-process limitation. The examiner respectfully disagrees. A product-by-process claim is a product claim that defines the claimed product in terms of the process by which it is made. See MPEP

2173.05(p). Therefore, since the claimed product is defined in terms of the process (wet processed) by which it is made, the claim is clearly a product-by-process limitation.

The applicant asserts that a wet-laid mat is patentably distinct from an air-laid mat because the specification discloses that a wet process provides a more consistent weight per unit area (more random fiber orientation). Applicant's argument is not persuasive because the current claims do not refer to weight per unit area and because Welchel discloses that air-laid mats possess randomly deposited fibers (column 7, lines 54-62).

In response, the applicant asserts that it does not matter that the claims omit weight per unit area limitations. The examiner respectfully disagrees. The applicant fails to appreciate that more than one variable affects the resulting weight per unit area. Even assuming *arguendo*, that in general a wet process provides a more consistent weight per unit area than a dry process, the applicant has failed to teach or suggest that the claimed wet-laid mat has a weight per unit area that is more consistent than the air-laid mat taught by the applied prior art.

Claims rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,616,408 to Oleszczuk or USPN 5,804,512 to Lickfield, in view of USPN 6,022,818 to Welchel.

The applicant asserts that Oleszczuk and Lickfield do not teach directly bonding layers of wet processed mat. The examiner respectfully disagrees. Layer (14) and/or layer (16) would be directly bonded to another layer of wet processed mat.

In response, the applicant asserts that no evidence supports this conclusion. The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that additional "supporting" (wet processed bicomponent staple fiber mat) layers may be added to the article

(see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield). Therefore, layer (14) and/or layer (16) would be directly bonded to another layer of wet processed mat.

The applicant asserts that there is no teaching or suggestion to provide directly bonded layers of wet processed mat with different fiber formulations. The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that additional "supporting" (wet processed bicomponent staple fiber mat) layers may be added to the composite article (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield), but the references do not appear to specifically mention at least one adjacent additional layer of different fiber formulation. Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and/or more comfortable to the user (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to directly bond an additional wet processed bicomponent staple fiber mat supporting layer, with a different fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), because the additional wet processed bicomponent staple fiber mat supporting layer would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user.

The applicant asserts that the “second top sheet” (105) of Welchel is not wet processed or directly bonded to another wet processed layer. The examiner contends that it is not necessary to rely on Welchel to teach the wet processing of the layers because Oleszczuk and Lickfield already disclose that additional “supporting” (wet processed mat) layers may be added to the composite article (see column 8, lines 64-67 and the paragraph bridging columns 12 and 13 of Oleszczuk and column 5, lines 1-4 and column 10, lines 10-23 of Lickfield). It is noted that Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield) and that Welchel also discloses that the thermoplastic bicomponent staple fiber nonwoven layers (105 and 102) are to be directly bonded (45-48).

In response, the applicant asserts that the cited portions refer to unspecified layers in an unspecified manner. The examiner respectfully disagrees. The “supporting” layers are clearly the outer plies because the inner ply is the meltblown layer, which is referred to as the barrier layer. Regarding unspecified location, regardless of the location of the additional supporting layers, the additional layer will necessarily be in contact with layer (14) or layer (16), resulting in first and second layers directly bonded together.

The applicant asserts that no evidence in the record supports the conclusion that directly bonding an additional wet processed bicomponent staple fiber mat supporting layer, with a different fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user. The examiner respectfully disagrees. Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional

thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and more comfortable to the user (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). The applicant appears to be asserting that a wet-laid mat would not allow for said advantage, but fails to support this assertion. It is well settled that unsupported arguments are no substitute for objective evidence. In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

The applicant asserts that the applied prior art fails to teach or suggest applying sufficient heat and pressure to bond the layers together (claim 13). The examiner respectfully disagrees. Oleszczuk and Lickfield each disclose that the layers may be thermally bonded (see column 8, lines 55-63 of Oleszczuk and column 4, lines 59-67 of Lickfield). Therefore, “sufficient” heat and pressure is necessarily applied.

The applicant asserts that there is no motivation to combine the references. The examiner respectfully disagrees. Welchel discloses that it is known in the nonwoven laminate fabric art (column 1, lines 11-20) to directly bond an additional thermoplastic bicomponent staple nonwoven layer (105) with a different fiber formulation (smaller denier) to an adjacent thermoplastic bicomponent staple nonwoven layer (102), so that the surface is more aesthetically pleasing to the touch and more comfortable to the user (see entire document including Figure 2, column 2, lines 17-18, column 5, lines 35-65, and column 7, lines 4-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to directly bond an additional wet processed bicomponent staple fiber mat supporting layer, with a different

fiber formulation (smaller denier), to the first or second layer of wet processed mat (14 or 16), because the additional wet processed bicomponent staple fiber mat supporting layer would allow the surface be more aesthetically pleasing to the touch and more comfortable to the user.

Regarding claims 2 and 14, the applicant asserts that none of the references disclose three layers comprising bicomponent fibers. The examiner respectfully disagrees. Layer (14), layer (16), and the additional “supporting” layer each comprise bicomponent fibers.

Regarding claims 6-8 and 16-18, the applicant asserts that Examiner’s stated reason for the making the combination does not establish the requisite motivation. The examiner respectfully disagrees. Oleszczuk and Lickfield are each silent with regards to specific layer thicknesses, therefore, it would have been necessary and thus obvious to look to the prior art for conventional thicknesses. Insley provides this conventional teaching showing that it is known in the nonwoven barrier fabric art to use layer thicknesses ranging from 0.02 to 4 cm (see entire document including column 3, lines 43-62 and column 11, lines 39-51). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the layers with a thickness ranging from 0.02 to 4 cm, motivated by the expectation of successfully practicing the invention of Oleszczuk and/or Lickfield.

In response, the applicant asserts that successfully practicing the invention of Oleszczuk and/or Lickfield is “mere argument.” The examiner respectfully disagrees. The applicant appears to be asserting that one skilled in the art would never be motivated to successfully practicing the invention of Oleszczuk and/or Lickfield, but the applicant provides absolutely no evidence supporting this assertion. It is well settled that unsupported arguments are no substitute for objective evidence. In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

Regarding claim 24, the applicant asserts that the rejection ignores the ordinary meaning of the word “composition.” The examiner respectfully disagrees. The ordinary meaning of the word “composition” is “general makeup.” The first and second layers have different fiber compositions because one layer is composed of fibers with a small diameter while the other layer is composed of fibers with a larger diameter. In addition, Oleszczuk and Lickfield each disclose that at least one of the outer webs may be treated with a treatment agent to render any one of a number of desired properties to the fabric (column 12, lines 31-43 of Oleszczuk and column 4, lines 1-17 of Lickfield). Therefore, the first and second layers would have different fiber compositions because the outer layer would be composed of fibers comprising a treatment agent while the inner layer would be composed of fibers not comprising a treatment agent.

In response, the applicant asserts that no evidence cited by the examiner supports the assertion that the ordinary meaning of the word “composition” is “general makeup.” The examiner contends that this is the dictionary definition of the word “composition.” The examiner is willing to provide applicant the cited dictionary definition upon request.

Regarding claim 24, the examiner noted that the current claim simply states that the layers have different fiber compositions, not necessarily different from each other. For example, since the fibers in each layer may comprise polyester, polyethylene, and/or PET (see column 8, lines 22-54 and column 12, lines 43-56 of Oleszczuk and column 3, lines 55-67 and column 10, lines 1-9 of Lickfield), the first and second layers have different fiber compositions.

In response, the applicant asserts that this interpretation is contrary to logic and contrary to what would be understood by a skilled artisan. The examiner respectfully disagrees. Firstly, it is well settled that unsupported arguments are no substitute for objective evidence. In re

Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974). Secondly, the claim clearly does not limit the manner in which the first and second layers have different fiber compositions. Therefore, the broadest most reasonable interpretation in view of the specification is that this limitation includes the embodiment wherein the layers have different fiber compositions, not necessarily different from each other.

Claims rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,022,818 to Welchel in view of anyone of USPN 5,958,186 to Holm, USPN 6,692,606 to Cederblad, or USPN 6,761,710 to D'Acchioli.

The rejection states: Welchel discloses that the layers may be formed by air-laying (column 7, lines 54-62), but Welchel does not appear to specifically mention a wet-laid process. In the event that it is shown that an air-laid mat is patentably distinct from a wet-laid mat, Holm, Cederblad, and D'Acchioli each disclose that it is known in the art to form mats by a wet-laid or dry-laid process (see entire documents including column 1, lines 10-29 of Holm, column 4, lines 37-50 of Cederblad, and column 3, lines 14-40 of D'Acchioli). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the mat from any suitable nonwoven material, such as dry-laid or wet-laid, because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

In response, the applicant asserts that there is no case decision in support (evidence) of this substitution. The examiner respectfully disagrees. The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re*



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*Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. **KSR v. Teleflex**

The applicant asserts that Holm teaches away from the combination because the alleged goal of Holm is to produce an article of natural fibers. The examiner respectfully disagrees. The rejection does not suggest using the fiber material disclosed by Holm. Therefore, the argument is without merit.

Regarding claim 25, the applicant asserts that Welchel does not teach or suggest a third layer of bicomponent fibers. The examiner respectfully disagrees. Welchel discloses an article comprising a first layer of air-laid processed mat (114), a second layer of air-laid processed mat (106), and a third layer of air-laid processed mat (108), wherein said layers comprise thermoplastic polymer staple fibers and thermoplastic bicomponent fibers (see entire documents including Figure 2, column 5, lines 35-65 and column 7, lines 4-21). Welchel discloses that the layers may be thermally bonded (column 7, lines 22-53). It is noted that layer (104) may comprise cellulosic fibers, but this is not relevant because the others layers are relied upon for the rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/  
Primary Examiner, Art Unit 1794